VESTAKEEP® 4000G

Polyetheretherketone Evonik Industries AG



Technical Data

Product Description

High-viscosity, unreinforced polyether ether ketone

VESTAKEEP 4000G is a high-viscosity, unreinforced polyether ether ketone for injection molding and extrusion.

The semi-crystalline polymer features superior thermal and chemical resistance. Parts made from VESTAKEEP 4000G are self-extinguishing.

VESTAKEEP 4000G can be processed by common machines for thermoplastics.

We recommend a melt temperature between 370°C and 380°C during the injection molding process. The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

General		
Material Status	 Commercial: Active 	
Literature ¹	 Brochure (English) Processing (English) Technical Datasheet (English) 	lish)
Search for UL Yellow Card	 Evonik Industries AG VESTAKEEP® 	
Availability	 Europe 	North America
Features	Chemical ResistantHigh Viscosity	Self ExtinguishingSemi Crystalline
Forms	Granules	
Processing Method	Extrusion	Injection Molding

Physical	Nominal Value Unit	Test Method
Density (23°C)	1.30 g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	11 cm³/10min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow : 2.00 mm	1.1 %	
Flow : 2.00 mm	0.90 %	
Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	3500 MPa	ISO 527-1
Tensile Stress (Yield)	96.0 MPa	ISO 527-2
Tensile Strain		ISO 527-2
Yield	5.0 %	
Break	30 %	
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-30°C, Complete Break	6.0 kJ/m ²	
23°C, Complete Break	7.0 kJ/m ²	
Charpy Unnotched Impact Strength		ISO 179/1eU
-30°C	No Break	
23°C	No Break	
Thermal	Nominal Value Unit	Test Method
Vicat Softening Temperature		
	305 °C	ISO 306/B
	335 °C	ISO 306/A
Melting Temperature ³	340 °C	ISO 11357-3
CLTE - Flow (23 to 55°C)	6.0E-4 cm/cm/°C	ISO 11359-2



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Flame Rating (3.2 mm) V-0 UL 94 Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 njection Nominal Value Unit Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C	Electrical	Nominal Value Unit	Test Method
Electric Strength 4 16 kV/mm IEC 60243-1 Relative Permittivity IEC 60250 50 Hz 2.80 1 MHz 2.80 Comparative Tracking Index IEC 60112 Solution A 200 V Solution A ⁵ 175 V Tammability Nominal Value Unit Test Method Flame Rating (3.2 mm) V-0 UL 94 Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 The Comparature Test Method 370 to 380 °C 106 to 200 °C Mold Temperature 160 to 200 °C 160 to 200 °C	Surface Resistivity	1.0E+14 ohms	IEC 60093
Relative Permittivity IEC 60250 50 Hz 2.80 1 MHz 2.80 Comparative Tracking Index IEC 60112 Solution A 200 V Solution A ⁵ 175 V Flammability Nominal Value Unit Test Method Flame Rating (3.2 mm) V-0 UL 94 Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 releftion Nominal Value Unit Test Method Processing (Melt) Temp 370 to 380 °C 160 to 200 °C Mold Temperature 160 to 200 °C 160 to 200 °C Extrusion Nominal Value Unit Test Method	Volume Resistivity	1.0E+15 ohms cm	IEC 60093
50 Hz 2.80 1 MHz 2.80 Comparative Tracking Index IEC 60112 Solution A 200 V Solution A ⁵ 175 V Flam Rating (3.2 mm) Nominal Value Unit Flame Rating (3.2 mm) V-0 Glow Wire Flammability Index (2.0 mm) 960 °C Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-12 IEC 60695-2-13 Modi Temperature 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Electric Strength ⁴	16 kV/mm	IEC 60243-1
1 MHz2.80Comparative Tracking IndexIEC 60112Solution A200 VSolution A 5175 VFlame Rating (3.2 mm)V-0Glow Wire Flammability Index (2.0 mm)960 °CIEC 60695-2-12Glow Wire Ignition Temperature (2.0 mm)njectionNominal Value UnitProcessing (Melt) Temp370 to 380 °CMold Temperature160 to 200 °CExtrusionNominal Value Unit	Relative Permittivity		IEC 60250
Comparative Tracking IndexIEC 60112Solution A200 VSolution A 5175 VFlammabilityNominal Value UnitTest MethodFlame Rating (3.2 mm)V-0UL 94Glow Wire Flammability Index (2.0 mm)960 °CIEC 60695-2-12Glow Wire Ignition Temperature (2.0 mm)825 °CIEC 60695-2-13InjectionNominal Value UnitProcessing (Melt) Temp370 to 380 °CMold Temperature160 to 200 °CExtrusionNominal Value Unit	50 Hz	2.80	
Solution A200 VSolution A 5175 VFlammabilityNominal Value UnitTest MethodFlame Rating (3.2 mm)V-0UL 94Glow Wire Flammability Index (2.0 mm)960 °CIEC 60695-2-12Glow Wire Ignition Temperature (2.0 mm)825 °CIEC 60695-2-13InjectionNominal Value UnitProcessing (Melt) Temp370 to 380 °CMold Temperature160 to 200 °CExtrusionNominal Value Unit	1 MHz	2.80	
Solution A ⁵ 175 V Flammability Nominal Value Unit Test Method Flame Rating (3.2 mm) V-0 UL 94 Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 njection Nominal Value Unit Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Comparative Tracking Index		IEC 60112
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Flame Rating (3.2 mm) V-0 UL 94 Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 njection Nominal Value Unit Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Solution A ⁵	175 V	
Glow Wire Flammability Index (2.0 mm) 960 °C IEC 60695-2-12 Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 njection Nominal Value Unit Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Flammability	Nominal Value Unit	Test Method
Glow Wire Ignition Temperature (2.0 mm) 825 °C IEC 60695-2-13 njection Nominal Value Unit Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Flame Rating (3.2 mm)	V-0	UL 94
njectionNominal Value UnitProcessing (Melt) Temp370 to 380 °CMold Temperature160 to 200 °CExtrusionNominal Value Unit	Glow Wire Flammability Index (2.0 mm)	960 °C	IEC 60695-2-12
Processing (Melt) Temp 370 to 380 °C Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Glow Wire Ignition Temperature (2.0 mm)	825 °C	IEC 60695-2-13
Mold Temperature 160 to 200 °C Extrusion Nominal Value Unit	Injection	Nominal Value Unit	
Extrusion Nominal Value Unit	Processing (Melt) Temp	370 to 380 °C	
	Mold Temperature	160 to 200 °C	
Hopper Temperature 100 to 120 °C	Extrusion	Nominal Value Unit	
	Hopper Temperature	100 to 120 °C	

Cylinder Zone 1 Temp.

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

350 to 380 °C

² Typical properties: these are not to be construed as specifications.

³ 2nd heating

⁴ K20/P50

⁵ 100 drops value



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